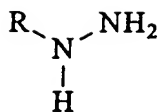
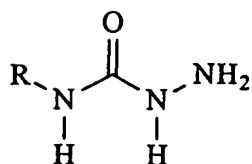


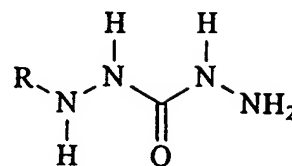
FIGURE 1



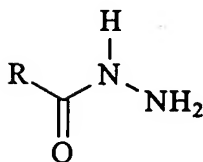
hydrazine



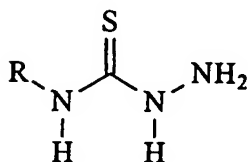
semicarbazide



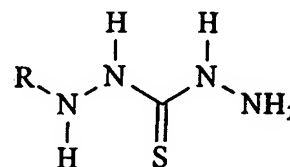
carbazine



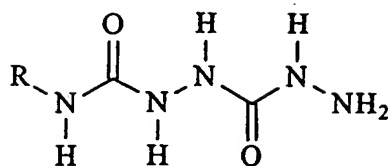
hydrazide



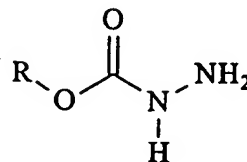
thiosemicarbazide



thiocarbazine



carbonic acid dihydrazine



hydrazine carboxylate

FIGURE 2

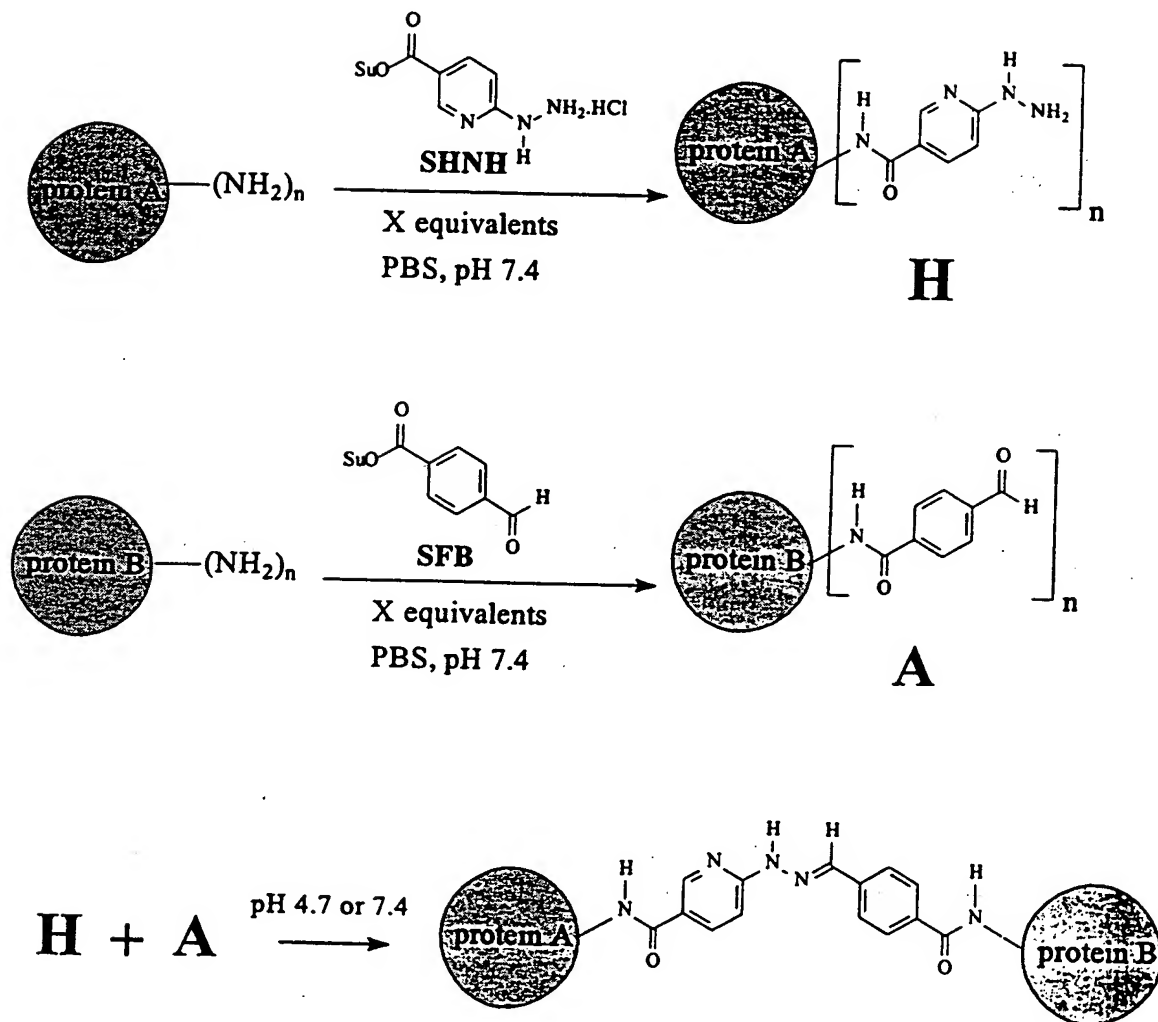


FIGURE 3

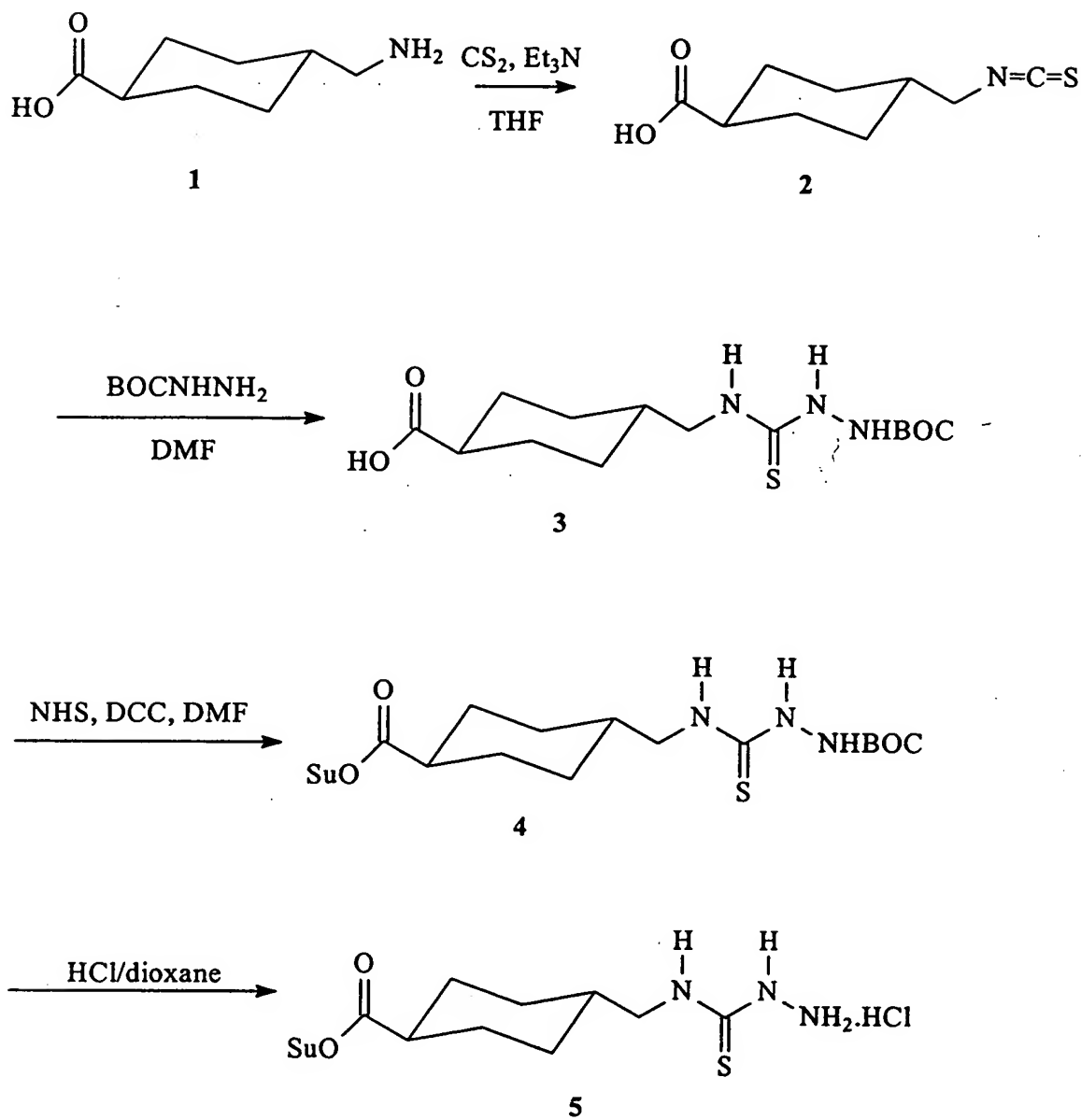


FIGURE 4

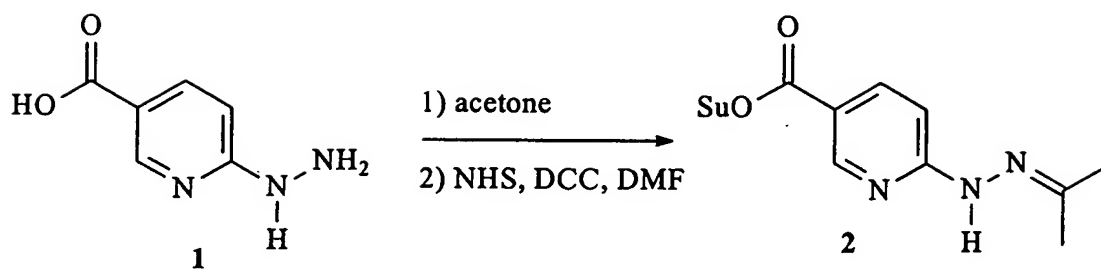
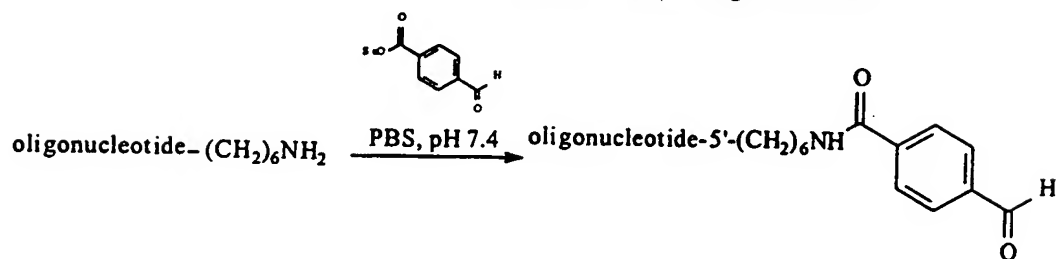
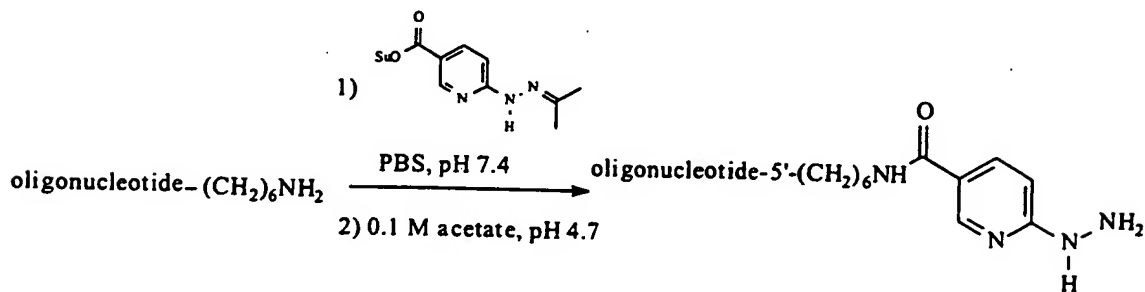


FIGURE 5

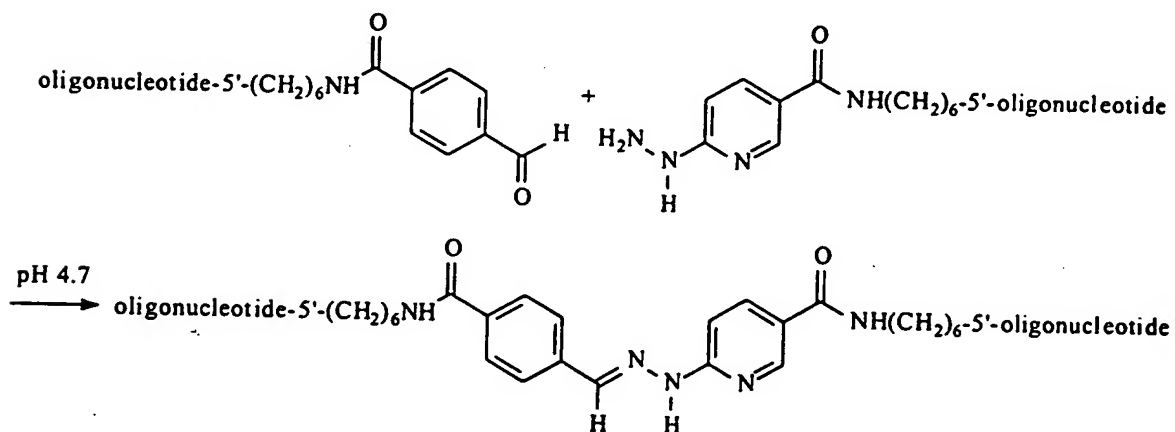
Preparation of 5'-aromatic aldehyde-modified oligonucleotide:



Preparation of 5'-heteroaromatic hydrazine-modified oligonucleotide:



Conjugation of hydrazino-modified oligonucleotide to aldehyde-modified oligonucleotide



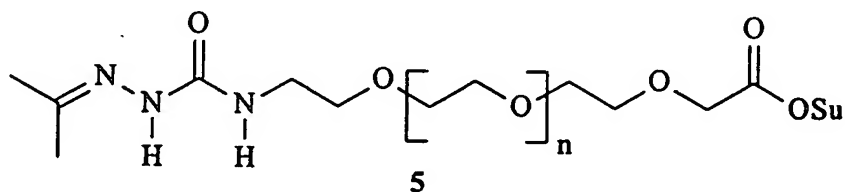
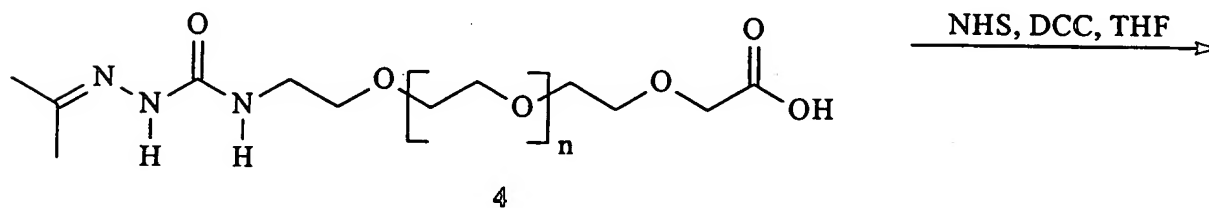
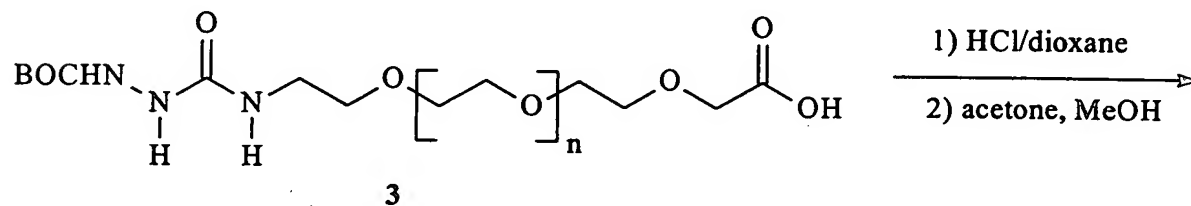
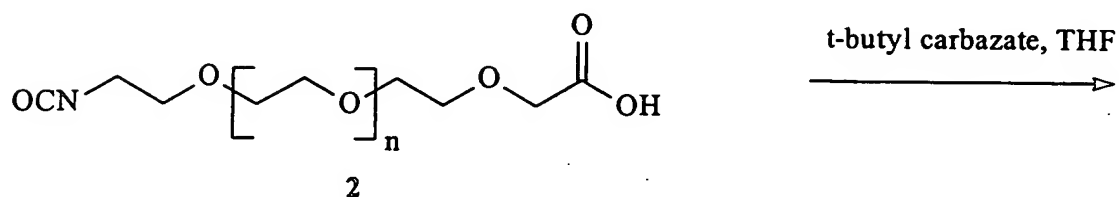
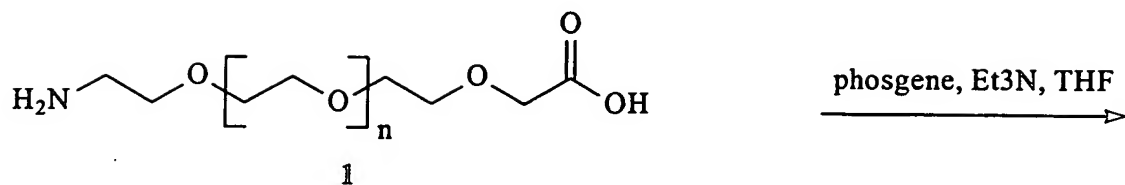


FIGURE 7

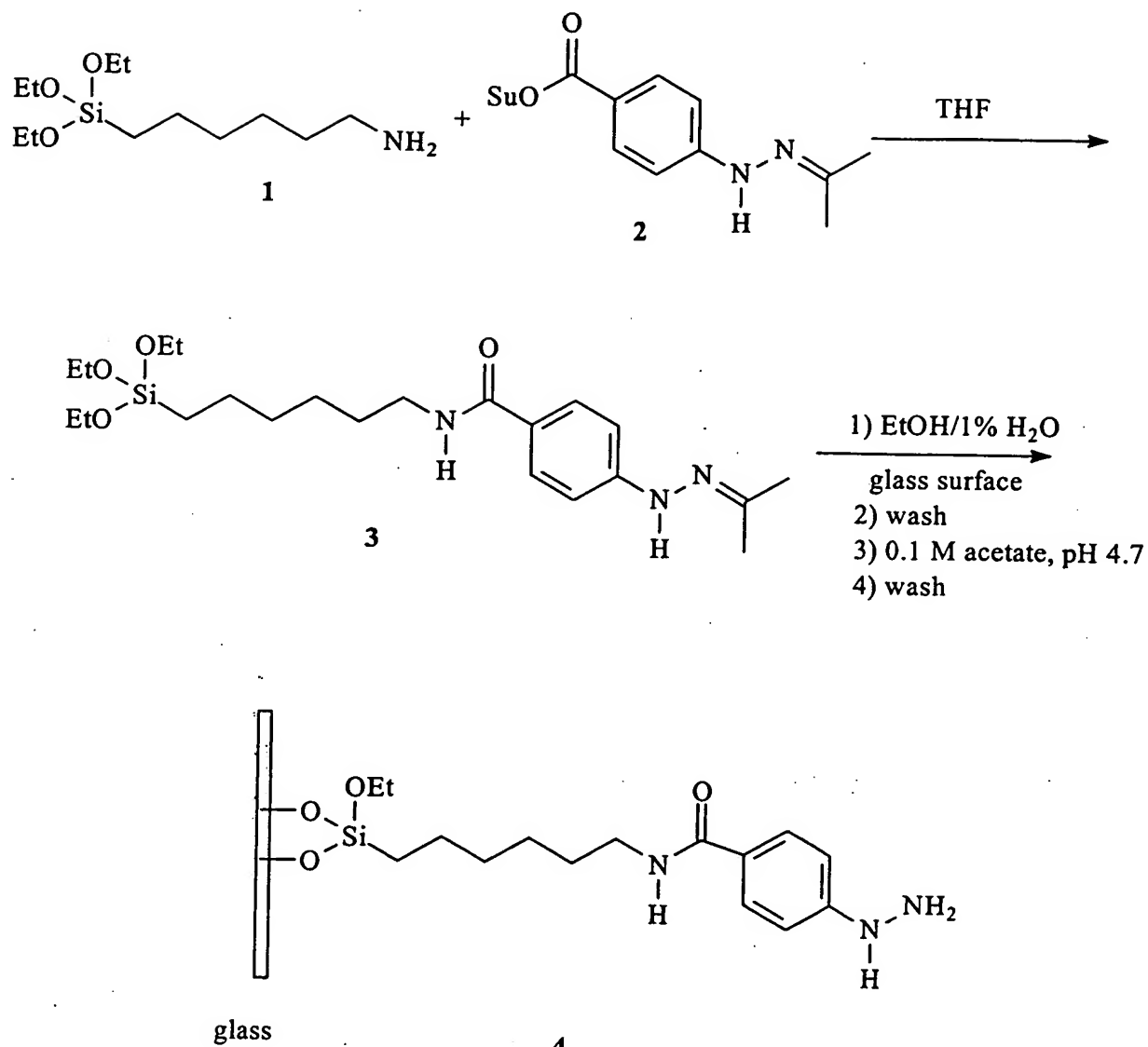


FIGURE 8

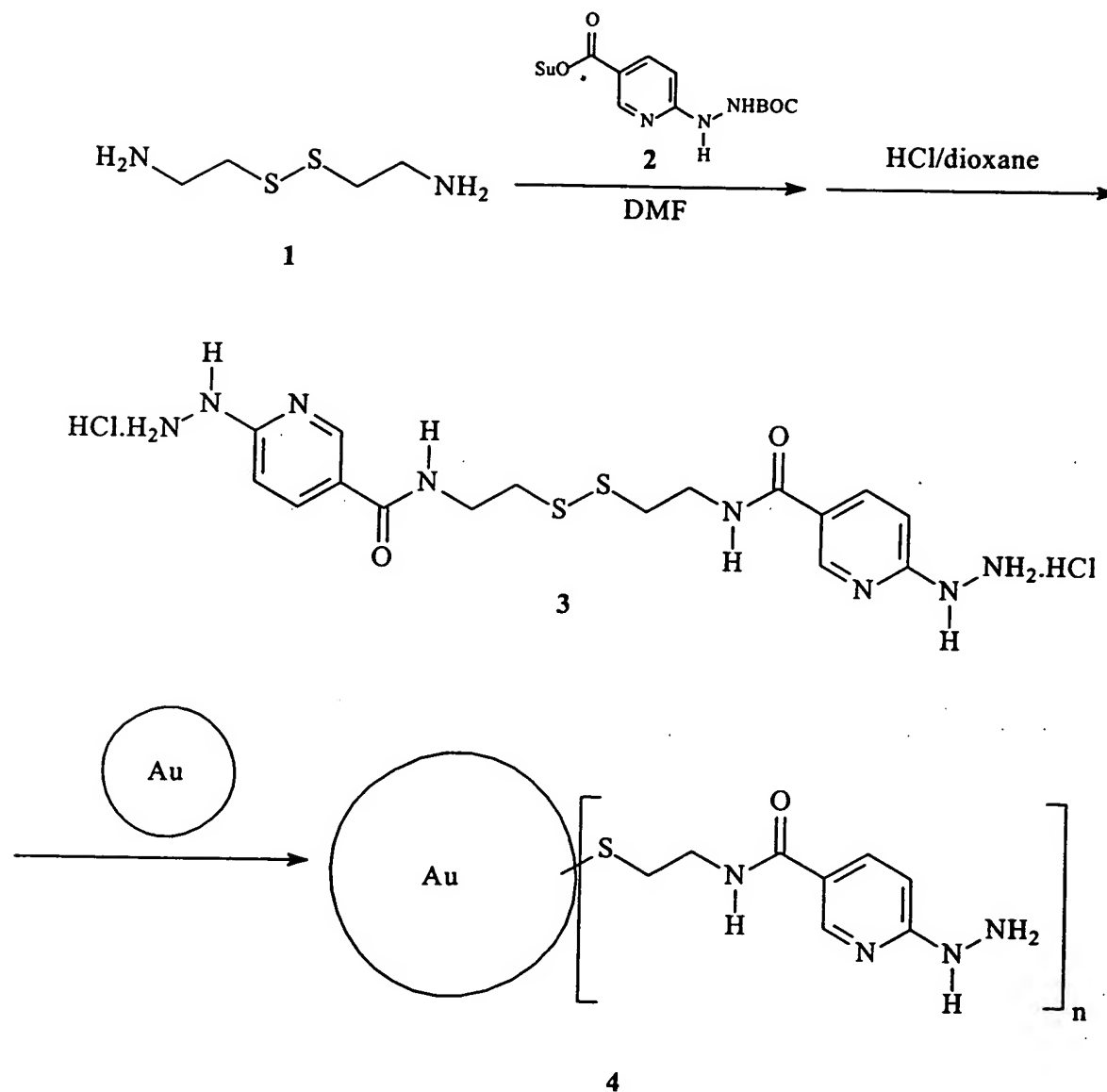


FIGURE 9

